

WHAT IS CLAIMED IS:

- 1 1. An apparatus comprising:
  - 2 a blocking cap adapted for use with a pressurized squeegee head, the
  - 3 pressurized squeegee head adapted to hold attachment media, wherein the blocking
  - 4 cap is positioned to prevent the attachment media from being deposited on a
  - 5 predetermined location on a stencil as the pressurized squeegee head travels over
  - 6 the stencil, the stencil located on top of a circuit board.
- 1 2. The apparatus of claim 1 wherein the blocking cap has at least two opposing
- 2 surfaces angled inwardly.
- 1 3. The apparatus of claim 2 wherein the blocking cap has a bottom opening.
- 1 4. The apparatus of claim 1 wherein the blocking cap has a substantially
- 2 horizontal surface and four substantially vertical surfaces, each substantially
- 3 vertical surface attached along an upper edge to the substantially horizontal surface.
- 1 5. The apparatus of claim 4 wherein the blocking cap has substantially square
- 2 edges attached to flexible seals.
- 1 6. The apparatus of claim 1 wherein the blocking cap fits inside the pressurized
- 2 squeegee head.
- 1 7. The apparatus of claim 6 wherein the pressurized squeegee head has a
- 2 conditioning chamber, further wherein the blocking cap fits inside the conditioning
- 3 chamber.
- 1 8. The apparatus of claim 1 wherein the blocking cap is securable to the
- 2 pressurized squeegee head with one or more connectors.

1    9.    The apparatus of claim 1 wherein the blocking cap can be slid into position  
2    along rails secured to the pressurized squeegee head.

1    10.   The apparatus of claim 1 wherein the predetermined location corresponds  
2    with one or more previously-placed components on the circuit board, the one or  
3    more previously-placed components protruding through one or more openings in  
4    the stencil.

1    11.   The apparatus of claim 10 wherein the one or more previously-placed  
2    components are selected from the group consisting of an individual surface-  
3    mounted component, a row of components, a pre-built die, a row of pre-built dice  
4    and a package.

1    12.   The apparatus of claim 10 wherein the blocking cap is aligned with the  
2    previously-placed components on the circuit board.

1    13.   The apparatus of claim 12 wherein the blocking cap is aligned manually or  
2    automatically.

1    14.   The apparatus of claim 1 wherein the attachment media is solder paste,  
2    liquid flux or adhesive paste.

1    15.   The apparatus of claim 1 wherein the blocking cap is made from rubber,  
2    plastic or metal.

1    16.   An apparatus comprising:  
2        one or more blocking caps securable inside a pressurized squeegee head,  
3        the one or more blocking caps designed to allow a stencil to be partially printed,  
4        wherein one or more blank strips are left in defined areas on the stencil after the one  
5        or more blocking caps travel over the stencil.

1    17.    The apparatus of claim 16 wherein the blank strips align with components  
2    previously secured to the circuit board.

1    18.    The apparatus of claim 17 wherein the one or more blocking caps each have  
2    a substantially horizontal surface and four substantially vertical surfaces, each  
3    substantially vertical surface attached along an upper edge to the substantially  
4    horizontal surface.

1    19.    The apparatus of claim 18 wherein at least two opposing substantially  
2    vertical surfaces each have a lip along a bottom edge.

1    20.    The apparatus of claim 19 wherein the one or more blocking caps have  
2    rounded edges and corners.

1    21.    The apparatus of claim 18 wherein the one or more blocking caps are each  
2    about 10 to 35 mm wide, about 10 to 35 mm long and about 10 to 35 mm tall.

1    22.    The apparatus of claim 16 wherein the one or more blocking caps are made  
2    from rubber, plastic or metal.

1    23.    The apparatus of claim 22 wherein the plastic is polyurethane.

1    24.    The apparatus of claim 22 wherein the metal has a protective coating.

1    25.    An apparatus for partially printing a circuit board comprising:  
2        a first blocking cap securable to a pressurized squeegee head; and  
3        a second blocking cap securable to the pressurized squeegee head at a  
4        predetermined distance apart from the first blocking cap.

1    26.    The apparatus of claim 25 wherein the first and second blocking caps each  
2    create a blank strip on a stencil located on top of the circuit board as the pressurized

3 squeegee head travels over the stencil by preventing media deposition on each  
4 blank strip.

1 27. The apparatus of claim 26 wherein each blank strip is adjacent to a printed  
2 area path produced by media deposition from the pressurized squeegee head, the  
3 printed area path having a width equal to the predetermined distance between the  
4 first and second blocking caps.

1 28. The apparatus of claim 27 wherein each blank strip aligns with one or more  
2 components previously secured to the circuit board, the one or more components  
3 able to protrude through openings in the stencil.

1 29. The apparatus of claim 28 wherein the blocking caps each have a bottom  
2 edge with a lip to prevent attachment media from leaking onto the blank strips.

1 30. The apparatus of claim 29 wherein the blocking caps each have rounded  
2 edges and corners to aid in providing even deposition of attachment media around  
3 each lip of the blocking caps.